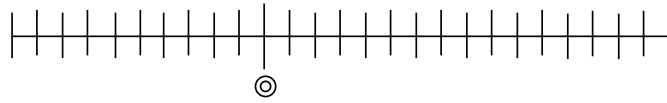


Motion WS 2 — use the information from the packet and notes to complete this worksheet

1. A car starts at $x_i = 3$ m. Moves forward 8 m (x_2) then after moves backward 20 m (x_3). **Label the positions on the number line below and find the car's final position.** O = zero.



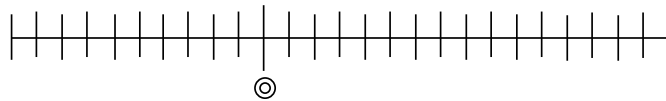
2. Find the distance of the car's motion:

GIVEN	WORK / PICTURE	ANSWER
1. d from x_i 2. d from x_f	TOTAL DISTANCE =	d=

3. Find the total displacement of the car's motion.

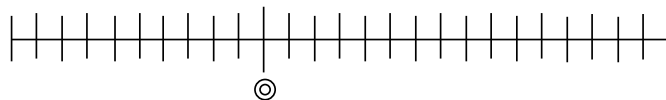
GIVEN	WORK / PICTURE	ANSWER
1. x_i 2. x_f 3. x_f		$\Delta x =$

4. Calculate the total displacement of a mouse walking along a ruler, if it begins at the location $x_i = 5$ cm, and then does the following: It walks to $x_2 = 12$ cm, then from that position walks a distance of -8 cm to x_3 , and finally walks to the location $x_4 = 7$ cm. **Label the positions on the number line below and find the car's final position.** O = zero.



GIVEN	WORK / PICTURE	ANSWER
1. x_i 2. x_f 3. x_f		$\Delta x =$

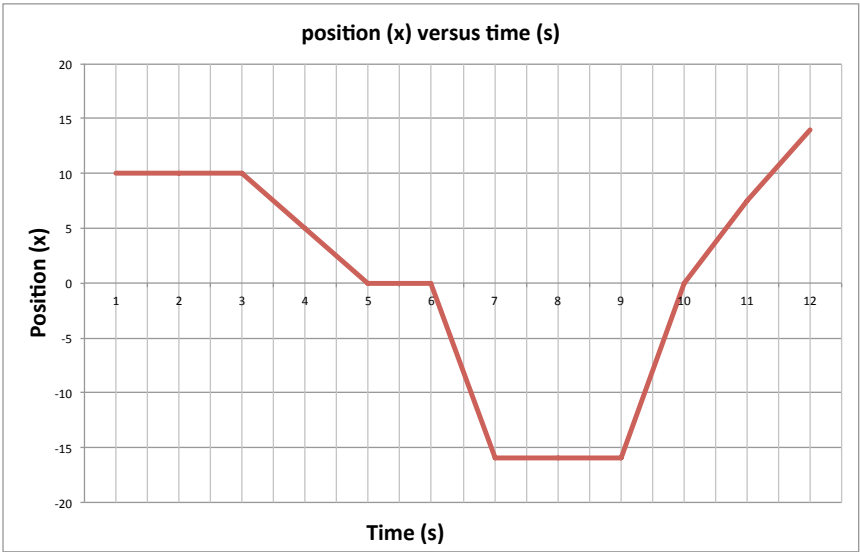
2. At the start of a basketball game the point guard starts at $x_i = 0$ m. In the first five possessions of the game she goes to the +4 m, -8 m, -2 m, +10 m, and finally the +7 m before the first whistle blows. Find the total displacement during this time. **Label the positions on the number line below and find the car's final position.** O = zero.



GIVEN	WORK / PICTURE	ANSWER
1. x_i 2. x_f 3. x_f		$\Delta x =$

The graph to the right shows the position of a runner at different times during a run. Use the graph to determine the runner’s following values.

- 3.
- 4.
- 5.
- 6. Displacement for time interval 0 s to 5 s.



GIVEN	WORK / PICTURE	ANSWER

- 7. Displacement for time interval 5 s to 10 s.

GIVEN	WORK / PICTURE	ANSWER

- 8. Displacement for the entire run.

GIVEN	WORK / PICTURE	ANSWER

- 9. Distance for time interval 0 s to 5 s.

GIVEN	WORK / PICTURE	ANSWER

- 10.Distance for time interval 5 s to 10 s.

GIVEN	WORK / PICTURE	ANSWER

- 11.Distance for the entire run.

GIVEN	WORK / PICTURE	ANSWER